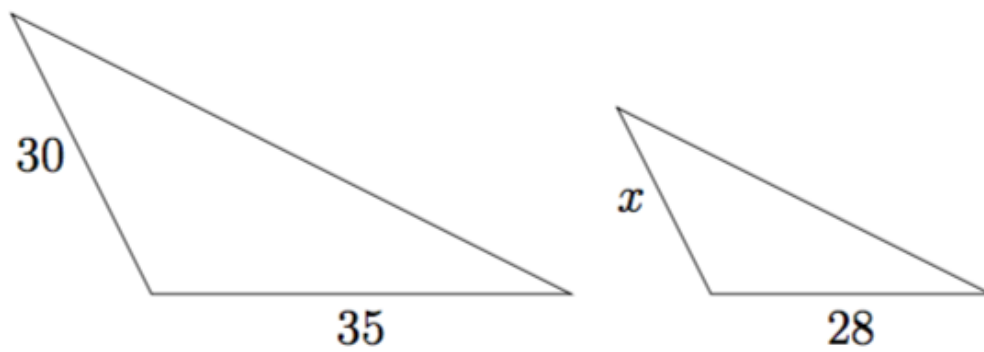


**Topic:** Similar triangles

**Question:** If the two triangles in the figure are similar, solve for the variable.

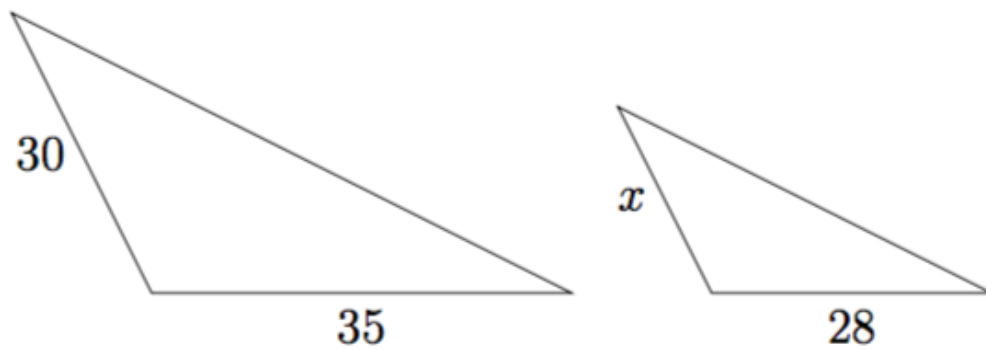
**Answer choices:**

- A 24
- B 25.5
- C 26
- D 37.5



**Solution: A**

In similar triangles, corresponding sides are proportional. In the diagram,  $x$  corresponds to 30, and 28 corresponds to 35.



So we say

$$\frac{x}{30} = \frac{28}{35}$$

$$\frac{x}{30} = \frac{4}{5}$$

Cross multiply.

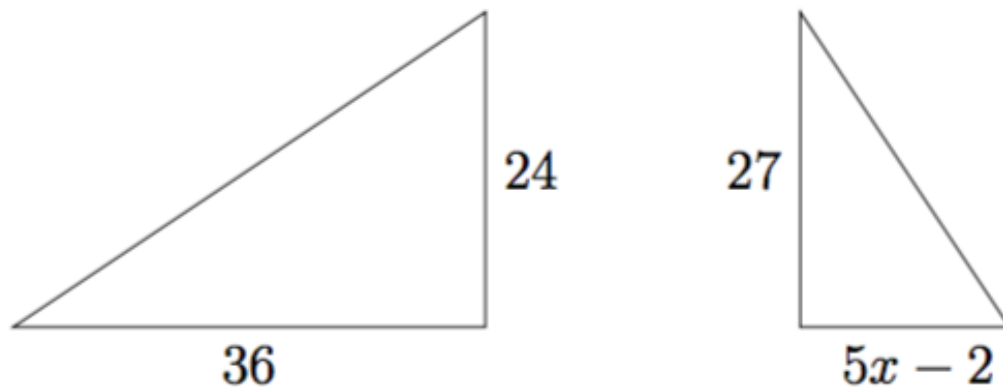
$$5x = 120$$

$$x = \frac{120}{5} = 24$$



**Topic:** Similar triangles

**Question:** If the two triangles in the figure are similar, solve for the variable.



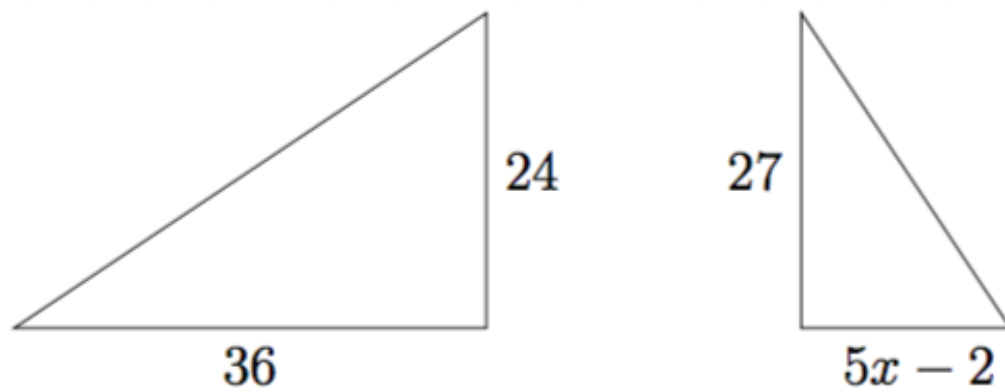
**Answer choices:**

- A 16
- B 11
- C 7
- D 4



**Solution: D**

In similar triangles, corresponding sides are proportional. In the diagram,  $5x - 2$  corresponds to 24, and 27 corresponds to 36.



So we say

$$\frac{5x - 2}{24} = \frac{27}{36}$$

$$\frac{5x - 2}{24} = \frac{3}{4}$$

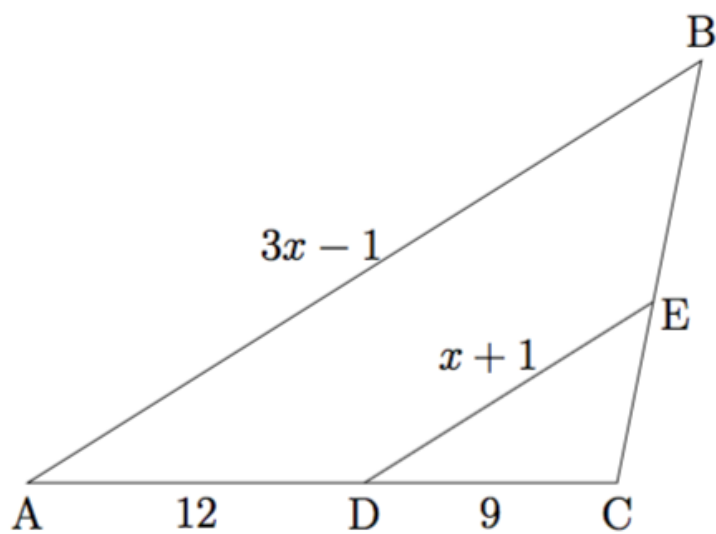
Cross multiply.

$$20x - 8 = 72$$

$$20x = 80$$

$$x = \frac{80}{20} = 4$$



**Topic:** Similar triangles**Question:** Solve for the variable. $\triangle ABC$  is similar to  $\triangle DEC$ .**Answer choices:**

A  $1\frac{2}{5}$

B 5

C 6

D 9



**Solution: B**

In similar triangles, corresponding sides are proportional.

$\overline{DC}$  corresponds to  $\overline{AC}$

$\overline{DE}$  corresponds to  $\overline{AB}$

So we get

$$\frac{9}{21} = \frac{x+1}{3x-1}$$

Cross multiply.

$$27x - 9 = 21x + 21$$

$$6x = 30$$

$$x = 5$$

